

(No Model.)

M. L. MARDIS.
CAR COUPLING.

No. 571,274.

Patented Nov. 10, 1896.

Fig. 1.

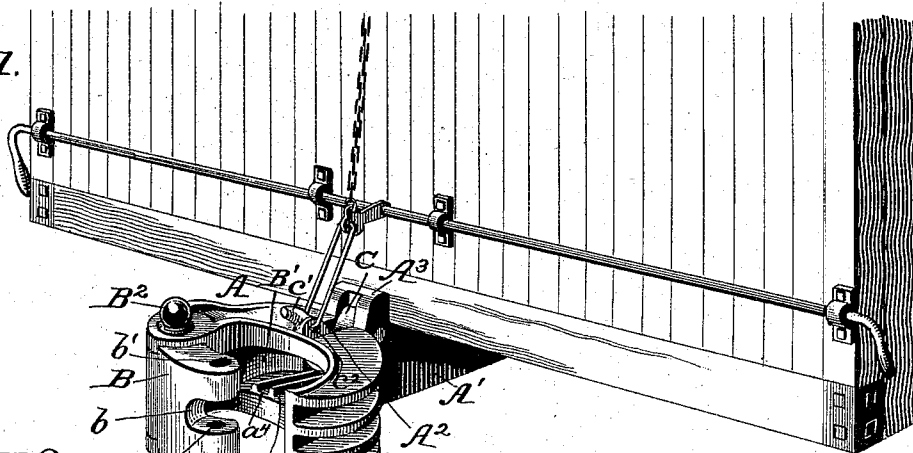


Fig. 2.

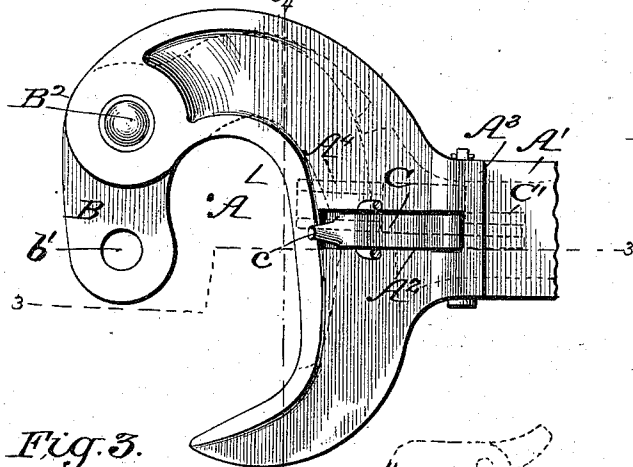
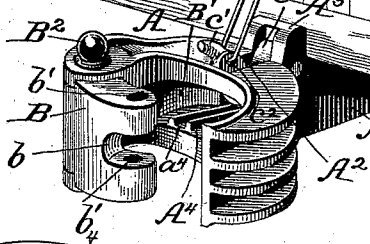


Fig. 3.

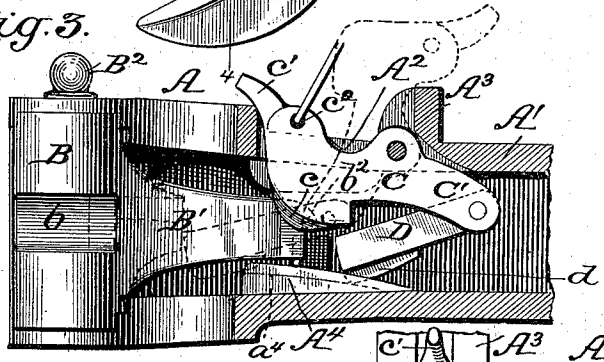


Fig. 4.

WITNESSES:

Jos. A. Ryan
W. S. Blouin

Fig. 5.

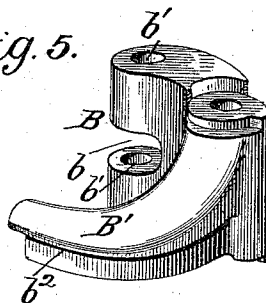
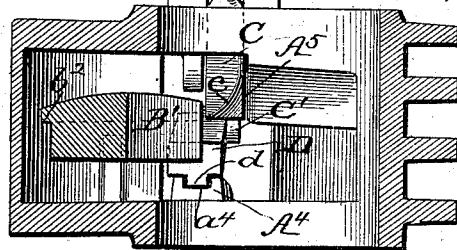
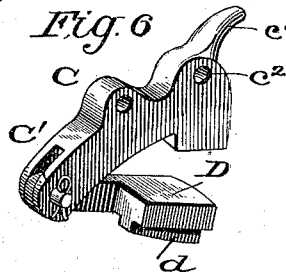


Fig. 6.



INVENTOR

Martin L. Mardis.

BY

Munn & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

MARTIN L. MARDIS, OF SALEM, OHIO.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 571,274, dated November 10, 1896.

Application filed August 27, 1896. Serial No. 604,100. (No model.)

To all whom it may concern.

Be it known that I, MARTIN L. MARDIS, a citizen of the United States, residing at Salem, Columbiana county, Ohio, have invented certain new and useful Improvements in Car-Couplings, of which the following specification contains a full, clear, and exact description, reference being had to the accompanying drawings, forming part thereof, and in which—

Figure 1 is a view illustrating my invention as in use. Fig. 2 is a plan view of one of the draw-heads. Fig. 3 is a vertical longitudinal section of the same taken on the line 3 3 of Fig. 2. Fig. 4 is a transverse section on the line 4 4, Fig. 2. Fig. 5 is a perspective view of the knuckle, and Fig. 6 is a similar view of the locking-dog and releaser.

My invention relates to couplings of the Janney type.

The objects of the invention are to provide an improved means for locking the knuckle in its operative position and also to provide a releasing device actuated by the locking means and adapted to engage and open the dog when the locking means is operated to unlock the knuckle; also to so construct such mechanism that there will be little or no liability of the same getting out of order; also to provide for the operation of the locking device, so that it may be actuated from the car-platform or the side or top of the car.

The invention consists, primarily, in a locking dog or latch to engage and lock the knuckle in its closed position and a knuckle-releaser operated by the said locking dog or latch to push the knuckle open when the dog or latch is thrown out of engagement with said knuckle. The invention also consists in the construction and combination hereinafter described and claimed.

A represents the draw-head, having the rearwardly-projecting hollow draw-bar extension A', the draw-head being recessed horizontally in its front face to receive the rear hooked end B' of the horizontally-swinging knuckle B, pivoted at its angle to one side of the draw-head on a removable pivot B². The front end of the knuckle is recessed, as at b, said recess being intersected by a vertical coupling-pin aperture b' in the usual manner. The curved tail or hook B' of the

knuckle has a flange b² on its rear edge at the upper corner thereof for a purpose to be presently described.

The upper wall of the draw-head A is provided, in line with the draw-bar, with a slot A² and with a shoulder or stop A³ on its upper side at the rear end of the slot. In the rear end of the slot A² is pivoted the vertically-swinging locking dog or latch C, the forward end of which drops down in front of the extremity of the tail or extension B' of the knuckle B and securely locks the knuckle in its closed position. The latch or dog C is beveled at c, where it is struck by the tail B' in closing, so that the latch or dog will be automatically raised when the knuckle is thrown to its closed position by contacting with the knuckle of an opposed draw-head.

The upper forward end of the latch or dog is provided with a handpiece c' by means of which it may be raised to release the knuckle by a person on the car-platform, and this end of the latch is also provided with an aperture c², to which an operating mechanism may be connected for raising the latch from the side of the car and also from the top thereof, as shown in Fig. 1. Thus the coupling is adapted for freight as well as passenger cars. Any approved mechanism may be used for so operating the latch from the side and top of the car, and I do not restrict myself to that shown.

The latch or dog is provided with a rearwardly and downwardly projecting extension C', to which is pivoted the rear end of the forwardly-extending knuckle-releaser D, which, when the latch or dog C is raised, is thrown forwardly against the rear side of the knuckle-tail B' and pushes the same forwardly out of the draw-head recess, as shown in Fig. 3 by dotted lines.

The releaser D slides upon an upwardly and forwardly inclined guideway A⁴, formed in the bottom of the draw-head and set somewhat obliquely or at an angle to the slot A², so that as the releaser slides forwardly it will also slide upwardly and laterally and exert a sheering pushing movement against the rear curved or inclined edge of the knuckle-tail to more effectually force the same outwardly. To hold the releaser D in place, it has a tongue d on its lower edge entering a slot a⁴ in the guideway A³, and the forward end of the re-

leaser is also beveled or inclined transversely. The forward end of the latch or dog C is heavy enough to fall by gravity and withdraw the releaser from contact with the knuckle whenever the latch is released, so that the latch and releaser will always be in their operative positions. The releaser D extends at its upward end under the overhanging flange b^2 of the knuckle, so that it cannot rise up and over the edge thereof.

The latch or dog C and the releaser D are so arranged that when the latch or dog is partially raised, so as to just clear the end of the tail B', the releaser D will be pushed forward into engagement with the tail B', and at this time the knuckle will release the attached draw-head, as it is then unlocked, or it may be pushed out by the releaser upon continuing to raise the latch. The rearward movement of the latch is limited by the stop-shoulder A³, so that the latch will always drop when released.

The side of the latch C opposite to that which engages the end of the knuckle-tail B' works past a shoulder A⁵ within the draw-head A, so that the latch will be relieved from the lateral strain exerted thereon by the knuckle.

Since both draw-heads are constructed alike, I have only described one in detail.

It will be seen that by my simple construction the knuckle may be simultaneously released and pushed open by the latch and releaser, so that the brakeman is not required to pass between the cars to set the knuckles, nor are any springs required to throw the knuckle open or hold it open, since when the releaser pushes the knuckle open it will hold it open until the brakeman allows the latch to fall, when the releaser will be instantly retracted thereby.

Owing to the open construction of the draw-head, the latch and releaser may be readily removed for repair and for the insertion of new ones.

What I claim is—

1. The combination with a draw-head and its swinging knuckle, of a latch or dog pivoted in the draw-head to lock the knuckle closed, and a sliding releaser connected to the latch and pushed forward thereby when said latch is raised against the tail of the knuckle to push the knuckle open, substantially as shown and described.

2. The combination with the draw-head and its swinging knuckle, and the vertically-rocking latch-bar locking said knuckle closed, of the releaser sliding in the lower wall of the draw-head and pivoted to the latch by which it is reciprocated, substantially as shown and described.

3. In a car-coupling of the class described, the latch pivoted in the draw-head to lock the knuckle closed and provided with an extension opposite its locking end, and the knuckle-releaser pivoted to said extension for recip-

rocation by the latch, substantially as shown and described.

4. The combination with the draw-head and its knuckle, of a latch or dog mounted in the draw-head to lock the knuckle, an oblique upwardly-inclined guideway in the bottom of the draw-head and a sliding releaser connected to said latch or dog, working on said guideway and engaging the tail of the knuckle to push it open, substantially as shown.

5. The combination with the draw-head and its knuckle, of a latch or dog mounted in the draw-head to lock the knuckle, an inclined guideway in the bottom of the draw-head, a sliding knuckle-releaser connected to the latch for reciprocation thereby and having a tongue-and-groove connection with the said guideway, substantially as shown.

6. The combination with the draw-head having a slot in its upper side, an inclined, oblique guideway in the bottom under said slot, and a knuckle pivoted in the draw-head with the end of its tail extending to the slot and over said guideway, of a pivoted vertically-swinging dog or latch working in said slot, engaging the end of the knuckle-tail and provided with a rearwardly-projecting extension, and a sliding releaser pivoted to said extension, working on said guideway and engaging the rear end of the knuckle-tail to force the knuckle open when the latch is raised, substantially as shown.

7. The combination with the draw-head and its knuckle, of a latch pivoted near its middle in the draw-head and adapted to engage the tailpiece of the knuckle with one of its ends and lock the knuckle closed, and a releaser for the tailpiece and pivoted to the opposite end of said latch and reciprocated thereby, substantially as shown and described.

8. The combination with the draw-head and its knuckle, of a vertically-swinging latch to lock this knuckle, means for operating the latch from the end, sides and top of a car and a sliding releaser connected to and reciprocated by the latch to engage the tail of the knuckle and swing the knuckle open, substantially as shown.

9. The combination with the draw-head and its swinging knuckle provided with a tailpiece, of the rocking latch mounted in the draw-head to lock the knuckle closed and the sliding releaser pivoted to the rear of said latch and moved forward when the latch is rocked and against the rear side of the tailpiece to throw the same out of the draw-head, substantially as shown and described.

10. The coupling-knuckle having its tail or extension provided on its rear inclined or curved face with an overhanging flange, substantially as shown.

11. In a car-coupler of the character described the pivoted latch for locking the knuckle, provided with a rearwardly-projecting extension opposite its locking end and

the knuckle-releaser pivoted at its rear end to the said extension for reciprocation thereby, substantially as shown.

12. The combination with the draw-head and its swinging knuckle, of a vertically-rocking latch to lock the knuckle, and a releaser pivoted to the latch and having a reciprocating

motion imparted to it by the rocking motion of said latch, substantially as shown and described.

MARTIN L. MARDIS.

Witnesses:

S. W. RAMSEY,
GEO. HOLMES.